

10/698,622

**REMARKS**

Claims 1-64, all the claims presently pending in the application, stand rejected on prior art grounds. Claims 1, 22 and 43 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 13, 34, 55, 20, 41, 62 and 64 stand rejected upon informalities under 35 U.S.C. 112, second paragraph. Claims 1-64 stand rejected under 35 U.S.C. 102. Applicants respectfully traverse these rejections based on the following discussion.

**I. The 35 U.S.C 101 Rejection**

Claims 1, 22 and 43 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The Examiner asserts that the claims are drawn to non-statutory subject matter because hardware is not directly recited to the steps in the claimed method.

Applicant's respectfully disagree with the Examiner. The Examiner's attention is directed to *Ex Parte Lundgren* Paper No.78 (BPAI 2004) which directly addresses this question. The Board of Patent Appeals and Interferences in *Ex Parte Lundgren*, citing the decision of the *Federal Circuit in AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1358, 50 USPQ2d 1447, 1452 (Fed. Cir. 1999), states that "a process claim that applies a mathematical algorithm to 'produce a useful, concrete, tangible result without pre-empting other uses of the mathematical principle, on its face comfortably falls within the scope of §101'". Since the

10/698,622

14

10/698,622

method claims produce a "useful, concrete, tangible result," the claims meet the standards under 35 U.S.C. §101, and the rejection should be withdrawn.

## **II. The 35 U.S.C. 112, Second Paragraph Rejection**

Claims 13, 34, 55, 20, 41, 62 and 64 stand rejected upon informalities for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner rejects claims 11, 27 and 37 for reciting the term "residual query." The claim has been amended for clarity to now recite the additional term "wherein said residual query comprises at least a portion of said query not associated with said index or said materialized view." Support for this amendment can be found throughout the specification, but more particularly as a limitation in claim 8, for example, which defines what the residual query. Therefore, a definition for the rejected term is found within the specification, as filed, and the amendment to the claim merely incorporates language from dependent claims and does not change the scope or nature of the invention.

Claims 20, 41, and 62 are rejected as having insufficient antecedent basis for the terms "the size" and "the expression trees" recited in claim 62. Claim 62 has been amended to properly satisfy the antecedent basis requirement as set forth by the Examiner.

The foregoing amendments do not alter the scope of the claims, but merely semantically revise the claims to remove any ambiguities. Moreover, claims 47-63 have been amended to correct other potential ambiguities from the claims and as such do not alter the scope. In view of

10/698,622

15

10/698,622

the forgoing amendments, Applicants respectfully request the Examiner withdraw the rejections set forth under 35 U.S.C. § 112, second paragraph.

### **III. The Prior Art Rejections**

Claims 1-64 stand rejected under 35 U.S.C. §102(e) as being anticipated by Barton et al. (U.S. Patent Publication No. 2004/0068487), hereinafter referred to as Barton. Applicants respectfully traverse these rejections based on the following discussion.

Barton teaches a method for processing documents such as XML documents where the method includes steps of receiving a query comprising search criteria, receiving at least a portion of a document; modifying the search criteria such that constraints specifying a backward relation may be reformulated into constraints specifying a forward relation; processing the document using the modified criteria and locating nodes that satisfy the search criteria.

The claimed invention, as provided in amended independent claims 1, 22, 34, 43, and 64 contain features, which are patentably distinguishable from the prior art references of record. Specifically, claims the present claims recite that the method, computer program, and system of the invention comprise a step wherein an additional pre-formulated rules query is applied in the method of the invention. More particularly, the additional pre-formulated rules query does not change the complexity of the algorithm of wherein it is determined whether materialize views and indexes relate to a particular query because it has be formulated before the execution of the method of the invention. Unlike the present invention, Barton involves the reformation of a query. After a query is applied, Barton modifies the criteria to specify a new relationship.

10/698,622

16

10/698,622

Applicants' invention is drawn to a method for determining whether materialized views and indexes relate to a query. In the practice of the claimed method, a step is required which involves the execution of a pre-formulated rules query (i.e., residual query). The residual queries are additional rules that do not change the complexity of the algorithm for calculating relationship between views, indexes and queries. As discussed above, Barton et al. involves the modification of initial search criteria such that the constraints specify a new relationship. This differs from the present method where the search criteria are not rewritten, but rather are pre-formulated as portion of an initial query. When the initial query of the claimed invention is compared with the materialize views or index, it is determined what portion of the original query is contained within the view or index. What ever portion of the pre-formulated initial query is not identified within the material views or index is the residual query of the claims. The claims here have been amended to specifically recite these limitations in the independent claims.

Indeed, the limitations to the claims reciting the step of "computing compensation for index selection or materialized new matching to determine what portion of said query can be evaluated by said index," (note that the portion not evaluated is the residual query) is found in claims 1, 22, 34, 43, and 64. As to these claims, the Examiner, in support of the rejections, of these claims refers to Barton at paragraph [0012], [0043], and [0103]. These references, cited by the examiner, fail to disclose the limitation of the claims as amended. Paragraph [0012] merely discloses XPath as a language for addressing parts of XML documents. Paragraph [0043] discloses converting an XPath expression into a set of constraints. Paragraph [0103] teaches the proposed limitation. Therefore, Barton fails to teach each and every limitation of the claimed invention.

10/698,622

17

10/698,622

The arguments set forth above, apply also to independent claims drawn to a computer program and system reciting the steps and elements of Applicants' invention as described above. The arguments also apply to any dependent claims that depend therefrom, as well, which by virtue of their dependency on the independent claims discussed herein should also be found allowable.

Moreover, the Applicants note that all claims are properly supported in the specification and accompanying drawings, and no new matter is being added. The claim amendments recite features that were found in the claims as originally filed, and, as such recite no new unexamined features. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections.

#### **IV. Formal Matters and Conclusion**

With respect to the rejections to the claims, the claims have been amended, above, to overcome these rejections. In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections to the claims.

In view of the foregoing, Applicants submit that claims 1-64, all the claims presently pending in the application, are patentably distinct from the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary.

10/698,622

18

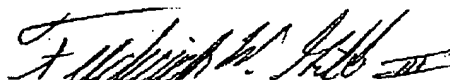
10/698,622

Please charge any deficiencies and credit any overpayments to Attorney's Deposit

Account Number 09-0441.

Respectfully submitted,

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10/698,622

19